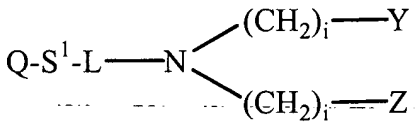
AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listing of claims in the application.

1. (**currently amended**) A metal chelating composition having the formula:



wherein

Q is a carrier;

S^1 is a spacer;

L is -A-T-CH(X)-;

A is ~~**a thioether, or selenoether**~~ **an amide** linkage;

T is a bond or substituted or unsubstituted alkyl or alkenyl;

X is ~~**$-(CH_2)_kCH_3$,**~~ $-(CH_2)_kCOOH$, ~~**$-(CH_2)_kSO_3H$, $-(CH_2)_kPO_3H_2$, $-(CH_2)_kN(J)_2$, or $-CH_2)_kP(J)_2$**~~;

k is an integer from 0 to 2;

~~**J is hydrocarbyl or substituted hydrocarbyl;**~~

Y is -COOH, ~~**-H, $-SO_3H$, $-PO_3H_2$, $-N(J)_2$, or $-P(J)_2$**~~;

Z is -COOH, ~~**-H, $-SO_3H$, $-PO_3H_2$, $-N(J)_2$, or $-P(J)_2$**~~; and

i is an integer from 0 to 4.

2. (**currently amended**): The metal chelating composition of claim 1 wherein ~~**L is -A-T-CH(X)-, A is an ether linkage, and T and X are as defined in claim 1**~~ **Q is agarose**.

3. (previously presented): The metal chelating composition of claim 2 wherein S^1 consists of a chain of no more than about 25 atoms selected from the group consisting of carbon, nitrogen, oxygen and sulfur.

4. (previously presented): The metal chelating composition of claim 2 wherein S^1 consists of a chain of no more than about 25 atoms selected from the group consisting of carbon, oxygen and sulfur.

5. (previously presented): The metal chelating composition of claim 2 wherein S^1 consists of a chain of no more than about 15 atoms selected from the group consisting of carbon, oxygen and sulfur and T is $-(CH_2)_n-$ wherein n is 0 to 6.

6. (**canceled**).

7. (**canceled**).

8. **(canceled)**

9. (**Currently amended**): The metal chelating composition of claim **~~8~~ 1** wherein the carrier is selected from the group consisting of agarose, cellulose, methacrylate co-polymers, polystyrene, polypropylene, paper, polyamide, polyacrylonitrile, polyvinylidene, polysulfone, nitrocellulose, polyester, polyethylene, silica, glass, latex, plastic, gold, iron oxide, polyacrylamide, nucleic acid, lipids, liposomes, synthetic soluble polymers, proteins, polyamino acids, albumin, antibodies, enzymes, streptavidin, peptides, hormones, chromogenic dyes, fluorescent dyes, flurochromes, and polysaccharides.

10. (previously presented): The metal chelating composition of claim 8 wherein S^1 consists of a chain of no more than about 25 atoms selected from the group consisting of carbon, nitrogen, oxygen and sulfur.

11. (previously presented): The metal chelating composition of claim 8 wherein S^1 consists of a chain of no more than about 25 atoms selected from the group consisting of carbon, oxygen and sulfur.

12. (previously presented): The metal chelating composition of claim 8 wherein S^1 consists of a chain of no more than about 15 atoms selected from the group consisting of carbon, oxygen and sulfur and T is $-(CH_2)_n-$ wherein n is 0 to 6.

13. (canceled).

14. (canceled).

15. (previously presented): A metal chelate comprising a chelate of a metal and the metal chelating composition of claim 1.

16. (previously presented): The metal chelate of claim 15 wherein the metal is selected from the group consisting of Ni, Hg, Ga, Cu, Ru, Co, Cd, Mg, Mn, Ti, In, Zn, Tc, Rh, Pd, Re, Fe, Au, Pb, and Bi.

17. (previously presented): The metal chelate of claim 15 wherein the metal is selected from the group consisting of Fe, Cu, Co, Au, and Ni.

18. (previously presented): The metal chelate of claim 15 wherein the metal is nickel.

19. (previously presented): A process for the purification or detection of a composition, the process comprising contacting the composition with a metal chelate of claim 15.

20. (previously presented): The process of claim 19 wherein the composition is a polypeptide containing at least two histidine residues.

21. (previously presented): The process of claim 19 wherein the composition is a polypeptide containing at least six histidine residues.

22. (previously presented): The process of claim 19 wherein the composition is a protein, phosphoprotein, peptide, phosphopeptide, nucleic acid, oligonucleotide, drug, or synthetic or natural product having an affinity for a metal chelate.

23. (previously presented): A process for the preparation of a mono- or dicarboxylated amine, the process comprising combining an amine and an oxoacid in the presence of a reducing agent, the amine having the formula R^2R^3NH wherein R^2 is hydrocarbyl or substituted hydrocarbyl and R^3 is hydrogen, hydrocarbyl or substituted hydrocarbyl.

24. (previously presented): The process of claim 23 wherein the oxoacid is glyoxylic acid.

25. (previously presented): The process of claim 23 wherein the reducing agent is a pyridine-borane complex, dimethylborane, trimethylborane, or sodium cyanoborohydride.

26. (previously presented): The process of claim 23 wherein the amine is an amino acid.

27. (previously presented): The process of claim 23 wherein the amine is an amino acid selected from the group consisting of cystine, homocystine, cysteine, homocysteine, aspartic acid, cysteic acid or an ester thereof.

28. (previously presented): The process of claim 23 wherein the amine is cystine, cysteine, cysteic acid or an ester thereof.